Object and internal  representation in javascript

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**What is an Object in JavaScript?**

In JavaScript, an object is a complex data type that allows you to group related data and functions into a single entity. You can think of an object as a container for properties (also known as keys or attributes) and methods (functions). This encapsulation of data and behavior is a fundamental aspect of object-oriented programming, and it allows for better organization and abstraction in your code.

Objects are defined using curly braces **{}** and consist of key-value pairs. The keys are strings (or Symbols in more advanced cases), and the values can be of any data type, including other objects. Here's a simple example of an object:

Understanding Objects and Their Internal Representation in JavaScript

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**Internal Representation of Objects**

To understand how objects are internally represented in JavaScript, it's essential to grasp a bit about memory allocation and references.

1. **Memory Allocation**: When you create an object in JavaScript, memory is allocated to store its properties and methods. JavaScript engines manage this memory allocation for you. The memory allocation is dynamic, meaning you can add or remove properties from an object at any time.
2. **Reference**: Objects are reference types in JavaScript. When you assign an object to a variable, you're storing a reference to the object in that variable, not the object itself. This reference points to the actual location of the object in memory. This behavior is crucial to understand when working with objects, as it can lead to unexpected results if you're not careful.